AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A turbocharged internal combustion engine including a variable volume combustion chamber, inlet valve means controlling flow of air into the combustion chamber, a fuel delivery means for delivering fuel into air to be mixed therewith for combustion, exhaust valve means for controlling flow of combusted gases from the combustion chamber, [[and]] compressor means for compressing the air prior to admission of the air into the combustion chamber, wherein the improvement in the turbocharged internal combustion engine comprises:

actuator means for opening and closing the exhaust valve means;

an electronic controller configured to control operation of the actuator means to thereby control opening and closing of the exhaust valve means;

the exhaust valve means including at least a first exhaust valve connected to a first exhaust duct and at least a second exhaust valve connected to a second exhaust duct separate and independent from the first exhaust duct, said electronic controller being operative to control timing of operation of said actuator means to control timing of opening and closing of said first exhaust valve and to control timing of opening and closing of said second exhaust valve;

the compressor means including a first turbocharger and the first exhaust duct being connected to the first turbocharger so that exhaust gases passing through the first exhaust duct drive the first turbocharger to rotate;

the second exhaust duct bypassing the first turbocharger and the combusted gases flowing through the second exhaust duct being exhausted without passing through the first turbocharger; and

the first and second exhaust valves being operable to control flow of the combusted gases leaving the combustion chamber flow through each of the first and second exhaust ducts;

the compressor means additionally including a second turbocharger receiving charge air for compression by the second turbocharger;

wherein the first turbocharger is a high pressure turbocharger and the first turbocharger being configured to receive compressed air at a first pressure from the second turbocharger, the second turbocharger being a low pressure turbocharger, and the first turbocharger being configured to compress the compressed air from the second turbocharger to a second higher pressure;

combusted gases leaving the first turbocharger after expansion in a turbine thereof being combined with the combusted gases flowing in the second exhaust duct and then the combined flow of combusted gases driving the second turbocharger to rotate;

all exhaust gases passing through the first exhaust duct flowing through the first turbocharger prior to flowing through the second turbocharger; and

wherein said timing of opening and closing of the first exhaust valve and said timing of opening and closing of the second exhaust valve controls the proportion of the flow of exhaust gas which flows through the first exhaust duct to the first turbocharger relative to the second exhaust duct, and the proportion of the flow of exhaust gas which flows through the first exhaust duct relative to the second exhaust duct being varied by variation of said timing of opening and closing of the first exhaust valve ~~with changes in engine speed~~.

2. (Previously Presented) The turbocharged internal combustion engine as claimed in claim 1 wherein combusted gases leaving the second turbocharger flow through a catalytic converter and then to atmosphere.

3. (Previously Presented) The turbocharged internal combustion engine as claimed in claim 1 comprising additionally a first intercooler through which air compressed in the second low pressure turbocharger passes before reaching the first high pressure turbocharger.

4. (Previously Presented) The turbocharged internal combustion engine as claimed in claim 1 comprising an intake air passage downstream of the first and second turbochargers through which all compressed air is delivered to the combustion chamber via the inlet valve means, said air passing either through the high pressure turbocharger or through an intake air bypass passage with bypass valve means controlling flow of the compressed air through the

intake air bypass passage, wherein air compressed by the second turbocharger flows through the intake air bypass passage to the intake air passage to the inlet valve means bypassing the first turbocharger.

5-14. (Cancelled)

15. (Previously Presented) The turbocharged internal combustion engine as claimed in claim 1, the engine having a first combustion mode and a second combustion mode, fuel being mixed with air in the first combustion mode to produce a homogeneous mixture which is then ignited by homogenous charge compression ignition and fuel being ignited by compression ignition in the combustion chamber in said second combustion mode.

16. (Previously Presented) The turbocharged internal combustion engine as claimed in claim 15 wherein in part loading operating conditions of the engine the exhaust valve means closes during the upstroke of the piston in order to trap combusted gases in the combustion chamber, the trapped combusted gases forming a mixture with the fuel and air and serving to delay ignition of the fuel and air mixture when the engine is operating in the first combustion mode with homogenous charge compression ignition.

17-25. (Cancelled)

26. (Currently Amended) The turbocharged internal combustion engine as claimed in claim 1, wherein the compressor means comprises additionally an intercooler for cooling the compressor intake air prior to delivery of the air into the combustion chamber.

27-28. (Cancelled)

29. (Previously Presented) The turbocharged internal combustion engine as claimed in claim 1, wherein the fuel delivery means is operative to deliver fuel into the combustion chamber early enough in an upstroke for mixing of the fuel with air to produce a homogenous mixture which is then ignited by homogenous charge compression ignition and wherein the fuel delivery means is operative to deliver fuel later in the upstroke for compression ignition in the combustion chamber.

30. (Previously Presented) The turbocharged internal combustion engine as claimed in claim 29 wherein in part load operating conditions of the engine the exhaust valve means is operative to close during the upstroke of the piston in order to trap combusted gases in the

combustion chamber, the trapped combusted gases forming a mixture with the fuel and air and serving to delay ignition of the fuel and air mixture when the engine is operating with homogenous charge compression ignition.

31. (Currently amended) A turbocharged internal combustion engine including a variable volume combustion chamber, inlet valve means controlling flow of air into the combustion chamber, a fuel delivery means for delivering fuel into air to be mixed therewith for combustion, exhaust valve means for controlling flow of combusted gases from the combustion chamber, and compressor means for compressing the air prior to admission of the air into the combustion chamber, actuator means for opening and closing the exhaust valve means, and an electronic controller configured to control operation of the actuator means to thereby control opening and closing of the exhaust valve means, wherein the improvement in the turbocharged internal combustion engine comprises:

the exhaust valve means including at least a first exhaust valve connected to a first exhaust duct and at least a second exhaust valve connected to a second exhaust duct separate and independent from the first exhaust duct, timing of operation of said actuator means being controlled by the electronic controller to control timing of opening and closing of said first exhaust valve and to control timing of opening and closing of said second exhaust valve;

the compressor means including a first turbocharger and the first exhaust duct being connected to the first turbocharger so that exhaust gases passing through the first exhaust duct drive the first turbocharger to rotate;

the second exhaust duct bypassing the first turbocharger and the combusted gases flowing through the second exhaust duct being exhausted without passing through the first turbocharger; and

the first and second exhaust valves being operable to control flow of the combusted gases leaving the combustion chamber flow through each of the first and second exhaust ducts;

the compressor means additionally including a second turbocharger receiving charge air for compression by the second turbocharger and supplying compressed air at a first pressure;

wherein the first turbocharger is a high pressure turbocharger and the first turbocharger being configured to receive a proportion of the compressed air at ~~a~~ the first pressure from the

second turbocharger, the second turbocharger being a low pressure turbocharger, and the first turbocharger being configured to compress the compressed air from the second turbocharger to a second higher pressure;

the compressor means additionally including a bypass passage having a bypass valve controlled by the electronic controller, configured to receive a proportion of the compressed air at the first pressure from the second turbocharger, and supply the same to the combustion chamber without passing through the first turbocharger;

combusted gases leaving the first turbocharger after expansion in a turbine thereof being combined with the combusted gases flowing in the second exhaust duct and then the combined flow of combusted gases driving the second turbocharger to rotate;

all exhaust gases passing through the first exhaust duct flowing through the first turbocharger prior to flowing through the second turbocharger; and

wherein said timing of opening and closing of the first exhaust valve and said timing of opening and closing of the second exhaust valve controls the proportion of the flow of exhaust gas which flows through the first exhaust duct to the first turbocharger relative to the second exhaust duct, and the proportion of the flow of exhaust gas which flows through the first exhaust duct relative to the second exhaust duct being varied by variation of said timing of opening and closing of the first exhaust valve ~~with changes in engine speed~~; and

the bypass valve controls the proportion of the compressed air from the second turbocharger received by the bypass passage relative to the first turbocharger~~, the proportion being varied with changes in engine speed~~.